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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,221	03/01/2004	Douglas O. Reudink	65948/P036C1/10402465	3950

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EXAMINER

NGUYEN, HUY D

ART UNIT PAPER NUMBER

2681

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/791,221	Applicant(s) REUDINK ET AL.	
	Examiner Huy D. Nguyen	Art Unit 2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 9, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the phrase “a different said sector control channel as associated with each sector of said base station” is unclear. The examiner will read it as: “a different said sector control channel is associated with each sector of said base station”.

Regarding claims 9 and 21, it is unclear what it means by “forward link portion and reverse link portion are of different durations”.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6-9, 14, 17-18, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Scherzer (US Patent No. 6,108,565).

Regarding claims 1, 6, and 17, Scherzer teaches a base station system adapted to provide simultaneous reuse of channels at said base station, said system comprising:

a multiple narrow beam antenna system adapted to provide isolation of signals radiated therein (i.e. inherently, antenna beams are used to provide isolation or reduce interference of signals/channels with same frequencies) , wherein sectors of said base station are associated with different ones of said antenna beams, wherein a sector control channel is associated with each sector of said base station (see column 2, lines 21-24, lines 57-61); base station radio circuitry adapted for providing a plurality of discrete simultaneous communications using a first communication channel in different ones of said sectors (i.e. channel/frequency reuse; see column 2, lines 24-26); and circuitry providing controllable coupling of said base station radio circuitry to said multiple narrow beam antenna system (see column 2, lines 29-32).

Regarding claim 2, Scherzer teaches the system of claim 1, wherein a different said sector control channel is associated with each sector of said base station (see column 2, lines 58-61).

Regarding claim 3, Scherzer teaches the system of claim 1, wherein said sector control channel is a multiple beam antenna access channel adapted for use in identifying a most preferred antenna beam of said multiple narrow beam antenna system for use with each of a plurality of remote stations in communication with said base station (see column 2, lines 58-61).

Regarding claim 7, Scherzer teaches the system of claim 6, wherein said controllable coupling circuitry is adapted to provide independently controllable coupling of each one of said plurality of discrete simultaneous communications using said first communication channel to ones of said antenna beams (see column 2, lines 22-26).

Regarding claims 8 and 18, Scherzer teaches the system of claim 7, wherein said controllable coupling circuitry is adapted to couple each one of said plurality of discrete simultaneous communications using said first communication channel to any one antenna beam of a sector associated with said each one of said plurality of discrete simultaneous communications (see column 2, lines 29-32).

Regarding claims 9, 20-21, Scherzer teaches the system of claim 6, wherein said first channel is a time division duplex channel including a forward link portion and a reverse link portion, wherein said forward link portion and said reverse link portion are of different durations for a first remote station in communication with said base station and a second remote station in communication with said base station (see column 1, lines 44-45).

Regarding claim 14, Scherzer teaches the system of claim 6, wherein said multiple narrow beam antenna system is an adaptive array antenna system (see column 2, lines 60-61).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5, 10-12, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer (US Patent No. 6,108,565).

Regarding claims 4-5, Scherzer teaches the claimed invention except link data packet comprising synch bits, overhead information, RSSI information, number of antenna beams,

current antenna beam, and directed message. However, the preceding parameters have been known in the art for synchronizing communications between BS and MS's, for determining the signal to interference ratio (SIR), for determining when the MS's are allocated access to the forward link channel usually for some selected slot in the near future, ... (e.g., see Naim et al. – US 6,885,868; Kamel et al. – US 6,374,103). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include those parameters in the link data packet for the benefits stated above.

Regarding claims 10-12, 20-24, Scherzer teaches the claimed invention except that the first channel is a frequency division channel. However, it would have been an obvious matter of design choice to have first channel being a frequency division channel since the invention would perform equally well with the first channel being a frequency division channel.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer (US Patent No. 6,108,565) in view of Dam et al. (US 2001/0016504 A1).

Regarding claim 13, Scherzer teaches the claimed invention except that the narrow beam antenna system is a fixed multiple beam antenna system. However, the preceding limitation is taught in Dam et al. (see paragraph [0009]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Dam et al. to the teaching of Scherzer to minimize crosstalk.

8. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer (US Patent No. 6,108,565) in view of Gilmore et al. (US Patent No. 5,861,844).

Regarding claims 15-16, Scherzer teaches the claimed invention except that the antenna system provides a plurality of substantially non-overlapping/overlapping antenna beams.

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However, the preceding limitation has been known in the art of communications. Gilmore et al. teaches an antenna array with width-adjustable beams (see column 5, line 55 to column 6, line 63). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Gilmore et al. to the teaching of Scherzer to achieve desired coverage.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer (US Patent No. 6,108,565) in view of Smith et al. (US Patent No. 6,243,565).

Regarding claim 19, Scherzer teaches the claimed invention except that the controllable coupling circuitry includes a switch matrix. However, the preceding limitation is taught in Smith et al. (see column 9, lines 41-63). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Smith et al. to the teaching of Scherzer to mitigate the effects of fading.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D. Nguyen whose telephone number is 571-272-7845. The examiner can normally be reached on M-F.

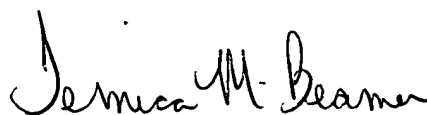
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HN

Huy Nguyen



TEMICA BEAMER
PRIMARY EXAMINER